

PROJECTS



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SURVEY DESIGN AND ANALYSIS PROJECTS

The National Research Council review noted that both the telephone and in-person interview components of the angler surveys include data collection and analysis procedures based on unverified assumptions that could lead to biases in catch and effort estimations. The following projects aim to test these assumptions and find ways to redesign the surveys to reduce the potential for bias.

Accounting for Incomplete Angler License Frames The National Research Council review recommended that future surveys of fishing effort should be based on a universal sampling frame of anglers, a phonebook of saltwater fishermen. At issue is the fact that some current saltwater licensing programs exempt large sections of the population from licensing requirements (e.g. age, military and disability exemptions). In other words, the phonebook of saltwater anglers that serves as the basis for the telephone survey is incomplete. Several states have recognized the benefits of sampling from angler lists and developed surveys that use license databases as sampling frames. These programs also have developed a variety of techniques to account for license exemptions. This project will provide an independent review of existing survey programs that use state license databases and provide recommendations for implementing more encompassing surveys in the future.

Counting Released Fish The National Research Council noted that the current in-person component of the surveys fails to provide a valid and reliable method to account for released fish. Not knowing the number of released fish or their mortality could impact stock assessments. This project will examine the extent of bias and evaluate the use of other methodologies to collect more reliable information on the size, numbers, disposition, and species composition of released catch.

Statistical Estimation The National Research Council noted that current estimation procedures have the potential to produce bias because they may not appropriately match sample designs. This project will evaluate alternative estimation procedures and document their impacts on catch and effort estimates.

Private Access Currently, fishing trips occurring on or launching from private property are not included in catch surveys because they are difficult, expensive, and often impossible to sample given private property rights. Because they are not sampled, these trips are assumed to be similar to trips to and from public property or boat ramps that are regularly sampled. This project will test this assumption by comparing the catch rates between public and private access sites.

DATA COLLECTION AND ANALYSIS ENHANCEMENT PROJECTS

In January 2008, NOAA Fisheries provided \$2.5 million in new funding to support 16 projects that enhance the nationwide saltwater recreational fishing data collection and analysis program.

Over the next several years, these projects will be led by expert work groups tasked with improving various aspects of the program, which relies on angler catch and effort surveys as a main source of data.

Providing direction to the groups is the 2006 National Research Council independent scientific report entitled "Review of Recreational Fisheries Survey Methods" that identified more than 200 possible improvements to existing angler surveys. Those recommendations were carefully evaluated by the groups to determine priority focus areas.

Projects will improve the surveys by expanding the sampling pool and reducing potential bias; improving and expanding counting methods for released fish, certain types of fishing, and non-licensed anglers; developing standards across states and regions to make data more comparable; and creating new counting methods related to highly migratory fisheries of special concern.



Night Fishing Night fishing may be common in some areas, but given the difficulty of sampling at night, anglers who fish at night are rarely surveyed by field samplers about their catch. It is assumed that night fishing trips are similar to fishing trips that occur during the day. This project will develop pilot studies to compare day and night catch rates and test assumptions about night fishing.

Guide Fisheries Guided, small boat fishing trips that involve trailered boats and private access pick-up points are difficult to sample and may be underrepresented in the data. It is assumed that these anglers' catch and fishing behavior is similar to those who are included in surveys. This project aims to test this assumption, identify ways to work with the guide community to sample catch, and measure the effect of excluding these trips in catch and effort estimates.

DATA MANAGEMENT AND STANDARDS PROJECTS

The National Research Council review recommended greater standardization among regional surveys and between state surveys and national surveys. The following projects will ensure the comparability and compatibility of fishing statistics among regional data collection programs, while recognizing that each region has unique informational needs and data collection issues.

Inventory Data Collection Programs The initial step toward data standardization is identifying and summarizing existing recreational fishing data collection programs. This project entails developing an inventory that includes current protocols for sampling, data collection, and processing; sampler training and evaluation, and site register maintenance; metadata standards; data management documentation; data elements and definitions; and data accessibility.

Minimum Data Elements and Regional/National Standards Building on the above inventory, this project sets the groundwork for a single comprehensive database of saltwater recreational fishing catch and effort information that regional data collection programs would feed into. In order to create the database, it first will require identifying minimum data elements with standardized data codes and documenting data processing protocols. This project includes producing a preliminary system requirements document to ensure compatibility, outlining functional requirements of an integrated system, and developing end user interface options to make the system user-friendly.

FOR-HIRE PROJECTS

The National Research Council recommended the for-hire industry be considered a commercial sector and that survey methods and reporting requirements for this sector should be different from those for recreational anglers. The purpose of these projects is to review and assess for-hire data collection methods and recommend regional approaches for improved collection of for-hire fishing data.

Inventory of For-Hire Data Collection Programs This project will provide a comprehensive inventory of current for-hire data collection programs. The inventory will include descriptions of data collection methods, descriptions of for-hire fisheries, licensing and reporting requirements for the various data collection programs, data requirements, data gaps, and known biases associated with each of the programs. This information will be used by an independent panel of experts to review and evaluate methods currently in place.

Expert Review of For-Hire Data Collection Methods This project will enlist an independent panel of experts to evaluate the various methods used to assess catch and effort for fisheries typically targeted by the for-hire industry and recommend regional approaches for improving the collection of for-hire data.

Pilot Electronic Reporting Program for Puerto Rico For-Hire Catch and Effort Data This project will develop and test an electronic data collection program for for-hire industry in Puerto Rico. Currently, for-hire effort data is collected through random telephone contacts with Puerto Rican residents. This method



is especially ineffective as a large portion of for-hire fishing trips are taken by non-residents. The success of this project will be evaluated for possible use in other regions.

HIGHLY MIGRATORY SPECIES (HMS) PROJECTS

While data collection and analysis related to highly migratory fisheries (e.g. tunas, billfish, swordfish, and sharks) were not addressed specifically in the National Research Council review, these valued, highly valued fisheries are important to many anglers. Highly migratory species also present unique data collection challenges and require different survey approaches. For these reasons, the agency is investing in projects to assess current programs, develop new methodologies as needed, and expand the data collection efforts to meet new management and science needs.

Characterize Recreational Fisheries in the South Atlantic and the Gulf of Mexico

The initial step toward improving data collection for highly migratory species is to better understand the nature of current fisheries. Reliable catch and effort data for several important highly migratory species is lacking in these regions. This project will characterize the HMS private boat fisheries in the Gulf of Mexico and South Atlantic, and the HMS charter boat fishery off Texas.

Evaluate Sampling Distribution of Tournament Versus Non-Tournament Trips

Tournaments are an important part of the total directed fishery for highly migratory species. The catch rates and fish sizes from tournament trips typically differ from those associated with non-tournament trips. As either over-sampling or under-sampling tournament trips could affect the accuracy of catch rates and size distributions, it is important that HMS surveys sample tournament trips in proportion to their occurrence. This study will evaluate the sampling distribution of tournament trips in NOAA Fisheries' Large Pelagic Survey. If tournaments are not being sampled proportionately, recommendations will be made for correcting this potential bias and implementing new approaches for sampling HMS tournament in the future.

Non-Tournament Landings Reporting for Private Boats in the Caribbean

Outside of information gathered at tournaments, scientists and managers have little reliable data of HMS fishing in Puerto Rico. Working in cooperation with local recreational fishermen and industry leaders, the project will first characterize the make-up of the fishery and from that, develop a new data collection system to provide a clearer, more complete picture of highly migratory species fishing in Puerto Rico.

Florida Private Angler Telephone Survey

Reliable recreational catch and effort data for several important highly migratory species caught in Florida are lacking. This project employs a targeted telephone survey of highly migratory species private angler permit holders to estimate and characterize the state's total private boat-directed fishery for highly migratory species. Information obtained from this study will help fishery managers understand the magnitude and characteristics of this fishery and will be used to develop future highly migratory species catch and effort surveys in Florida.

Florida For-Hire Pilot Survey

A companion study to the "Private Angler Telephone Survey", this project seeks a more complete picture of the for-hire fishery for highly migratory species in Florida. Both dockside and telephone interviews will be conducted with HMS captains in an effort to characterize the for-hire HMS fishery throughout Florida and estimate total for-hire HMS catch and directed effort in southeast Florida and the Florida Keys. As with its companion survey, project results will be used to develop future surveys that provide more precise and accurate information.